#12

SEQUENCE LISTING

<110> Ira Herman
      Alice Welch

<120> BETA-CAP73 CONTROL OF NORMAL AND
      ABNORMAL CELL MIGRATION

<130> TUI-001CP

<140> US 09/750,590
<141> 2000-12-28

<150> 60/170,182
<151> 1999-12-10

<150> 09/733,818
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gcggagaagg attccgaaga cgaagaaaat atccttagag atccaagcta agtgtagtgc 240
agcatgaaga ttgcagaaca ggaagagttc taagaagaag gactgagtca ctagttagga 300
gtctctctga gggctggctt tgtgagccac agtgatttgt aacttaatgc gaactaattt 360
gctgttagca acaagaaact aaatcctgtc t atg atg agc tgt tgg ttt tct     412
                                   Met Met Ser Cys Trp Phe Ser
                                   1               5

tgt gct cct aag aac aga caa gca gca gat tgg aac aaa tac gat gac     460
Cys Ala Pro Lys Asn Arg Gln Ala Ala Asp Trp Asn Lys Tyr Asp Asp
         10              15                  20

cga ttg atg aga gca gca gaa agg gga gat gta gaa aaa gtg tcc tca     508
Arg Leu Met Arg Ala Ala Glu Arg Gly Asp Val Glu Lys Val Ser Ser
     25                  30                  35

atc ctt gct aaa aag gga gtc aat cca ggc aag cta gat gta gaa ggc     556
Ile Leu Ala Lys Lys Gly Val Asn Pro Gly Lys Leu Asp Val Glu Gly
40                  45                  50                  55

aga tct gcc ttt cat gtt gtg gcc tca aag gga aat ctt gag tgt ttg     604
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Arg Ser Ala Phe His Val Val Ala Ser Lys Gly Asn Leu Glu Cys Leu
              60                    65                    70

aat gcc atc ctc ata cat gga gtt gat att aca acc agt gac acc gca    652
Asn Ala Ile Leu Ile His Gly Val Asp Ile Thr Thr Ser Asp Thr Ala
                75                    80                    85

gga agg aat gct ctt cac ctg gct gca aag tat ggg cat gca ctg tgt    700
Gly Arg Asn Ala Leu His Leu Ala Ala Lys Tyr Gly His Ala Leu Cys
                90                    95                   100

cta caa aaa ctt cta cag tac aat tgt ccc act gaa cat gta gac ctg    748
Leu Gln Lys Leu Leu Gln Tyr Asn Cys Pro Thr Glu His Val Asp Leu
               105                   110                   115

cag gga aga act gca ctt cat gat gca gct atg gca gac tgt cct tct    796
Gln Gly Arg Thr Ala Leu His Asp Ala Ala Met Ala Asp Cys Pro Ser
120                   125                   130                   135

agc ata cag ctg ctc tgc gac cat ggg gcc tcg gtg aat gcc aaa gat    844
Ser Ile Gln Leu Leu Cys Asp His Gly Ala Ser Val Asn Ala Lys Asp
                     140                   145                   150

gta gat ggg cgg aca cca ctt gtt ctg gct acc cag atg tgt agg cca    892
Val Asp Gly Arg Thr Pro Leu Val Leu Ala Thr Gln Met Cys Arg Pro
               155                   160                   165

aca ata tgt caa ctg ctg ata gat aga ggg gcg gat att aat tcc aga    940
Thr Ile Cys Gln Leu Leu Ile Asp Arg Gly Ala Asp Ile Asn Ser Arg
               170                   175                   180

gac aaa caa aac agg act gct ctc atg cta gga tgc gag tat ggt tgc    988
Asp Lys Gln Asn Arg Thr Ala Leu Met Leu Gly Cys Glu Tyr Gly Cys
               185                   190                   195

aaa gat gca gta gaa gtc tta atc aaa aac ggc gct gac gtg acc ttg    1036
Lys Asp Ala Val Glu Val Leu Ile Lys Asn Gly Ala Asp Val Thr Leu
200                   205                   210                   215

ctg gac gcc ctt ggc cat gac agt tct tac tat gca aga att ggt gac    1084
Leu Asp Ala Leu Gly His Asp Ser Ser Tyr Tyr Ala Arg Ile Gly Asp
                     220                   225                   230

aat ctg gac att cta acc tta ctg aag act gca tca gaa aat tcc aac    1132
Asn Leu Asp Ile Leu Thr Leu Leu Lys Thr Ala Ser Glu Asn Ser Asn
                     235                   240                   245

aaa ggg aga gaa ctt tgg aag aaa gga cca tct tta caa cag cga aat    1180
Lys Gly Arg Glu Leu Trp Lys Lys Gly Pro Ser Leu Gln Gln Arg Asn
                     250                   255                   260

ttg tct cag atg cta gat gaa gta aat acg aag tca aat cag agg gag    1228
Leu Ser Gln Met Leu Asp Glu Val Asn Thr Lys Ser Asn Gln Arg Glu
265                   270                   275

cat caa aac att cag gat ctg gag att gaa aat gaa gat ctg aaa gag    1276
His Gln Asn Ile Gln Asp Leu Glu Ile Glu Asn Glu Asp Leu Lys Glu
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        280              285              290              295

aga ttg aga aaa att cag caa gaa cag aga ata tta ttg gat aaa gtc   1324
Arg Leu Arg Lys Ile Gln Gln Glu Gln Arg Ile Leu Leu Asp Lys Val
            300                  305                  310

aat ggt tta cag cta cag ctg aat gag gaa gta atg gtg gct gat gat   1372
Asn Gly Leu Gln Leu Gln Leu Asn Glu Glu Val Met Val Ala Asp Asp
                315                  320                  325

ctg gaa agt gag aaa gaa aag ctg aag tcc ctt ttg gca gcc aaa gaa   1420
Leu Glu Ser Glu Lys Glu Lys Leu Lys Ser Leu Leu Ala Ala Lys Glu
            330                  335                  340

aag cag cat gaa gaa agc cta aga act att gag gct ctg aaa agt aga   1468
Lys Gln His Glu Glu Ser Leu Arg Thr Ile Glu Ala Leu Lys Ser Arg
        345                  350                  355

ttt aag tat ttt gag agt gat cat tta gga tca gga agt cat ttc agg   1516
Phe Lys Tyr Phe Glu Ser Asp His Leu Gly Ser Gly Ser His Phe Arg
360                  365                  370                  375

aaa gaa gat atg ctt ctt aaa caa ggt caa atg tac atg aca gac tca   1564
Lys Glu Asp Met Leu Leu Lys Gln Gly Gln Met Tyr Met Thr Asp Ser
                380                  385                  390

cag tgt act tcc aca ggc atg cca gtc cat atg caa agc cga tct atg   1612
Gln Cys Thr Ser Thr Gly Met Pro Val His Met Gln Ser Arg Ser Met
                395                  400                  405

tta aga cca ctg gag cta gcc tta cct aat caa gcc tca tat tcg gaa   1660
Leu Arg Pro Leu Glu Leu Ala Leu Pro Asn Gln Ala Ser Tyr Ser Glu
            410                  415                  420

aac gaa att tta aag aaa gaa tta gaa gca atg aga act ttc tgt gat   1708
Asn Glu Ile Leu Lys Lys Glu Leu Glu Ala Met Arg Thr Phe Cys Asp
        425                  430                  435

tca gca aaa caa gac aga ctc aaa ctc caa aat gaa ctg gct cac aag   1756
Ser Ala Lys Gln Asp Arg Leu Lys Leu Gln Asn Glu Leu Ala His Lys
440                  445                  450                  455

gtg gcg gag tgc aag gcc tta gca ttg gaa tgt gaa agg gtg aaa gag   1804
Val Ala Glu Cys Lys Ala Leu Ala Leu Glu Cys Glu Arg Val Lys Glu
                460                  465                  470

gat tca gat gag cag ata aag caa cta gaa gat gcc ttg aaa gac gtg   1852
Asp Ser Asp Glu Gln Ile Lys Gln Leu Glu Asp Ala Leu Lys Asp Val
            475                  480                  485

cag aag aga atg tat gag tcg gaa ggt aaa gtg aaa caa atg cag aca   1900
Gln Lys Arg Met Tyr Glu Ser Glu Gly Lys Val Lys Gln Met Gln Thr
            490                  495                  500

cat ttt ctt gcc ttg aaa gag cac ctg aca agt gat gcg gcc act ggg   1948
His Phe Leu Ala Leu Lys Glu His Leu Thr Ser Asp Ala Ala Thr Gly
        505                  510                  515
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aac cac agg ctg atg gag gaa ctg aag gat cag ttg aaa gac atg aaa    1996
Asn His Arg Leu Met Glu Glu Leu Lys Asp Gln Leu Lys Asp Met Lys
520                 525                 530                 535

gtg aaa tac gaa ggt gcg tcc gca gaa gtg ggg aaa ttg aga aac caa    2044
Val Lys Tyr Glu Gly Ala Ser Ala Glu Val Gly Lys Leu Arg Asn Gln
                540                 545                 550

atc aaa caa aat gaa atg tta gtt gaa gag ttt aag aga gat gag ggc    2092
Ile Lys Gln Asn Glu Met Leu Val Glu Glu Phe Lys Arg Asp Glu Gly
                555                 560                 565

aag ctg atg gaa gag aat aag cga ctg cag aag gag ttg agc atg tgt    2140
Lys Leu Met Glu Glu Asn Lys Arg Leu Gln Lys Glu Leu Ser Met Cys
                570                 575                 580

gaa ctg gag cga gag aag aga gga agg aag ctc act gag atg gaa ggc    2188
Glu Leu Glu Arg Glu Lys Arg Gly Arg Lys Leu Thr Glu Met Glu Gly
                585                 590                 595

cag tta aag gac ttg tca gcc aag ctg gcc ctt tct att cca gca gag    2236
Gln Leu Lys Asp Leu Ser Ala Lys Leu Ala Leu Ser Ile Pro Ala Glu
600                 605                 610                 615

aaa ttt gaa aac atg aag agc ttg tta tca aat gaa ctg aac gag aag    2284
Lys Phe Glu Asn Met Lys Ser Leu Leu Ser Asn Glu Leu Asn Glu Lys
                620                 625                 630

gca aaa aaa tta ata gat gtg gaa aga gaa tat gaa aga tca ctt aat    2332
Ala Lys Lys Leu Ile Asp Val Glu Arg Glu Tyr Glu Arg Ser Leu Asn
                635                 640                 645

gaa act aga cca tta aag aga gaa ctt gag aat ttg aag gcc aaa ctg    2380
Glu Thr Arg Pro Leu Lys Arg Glu Leu Glu Asn Leu Lys Ala Lys Leu
                650                 655                 660

gct cag cac gtc aaa cca gag gaa cat gag cag ctc aag agc aga tta    2428
Ala Gln His Val Lys Pro Glu Glu His Glu Gln Leu Lys Ser Arg Leu
665                 670                 675

gag cag aag tca gga gaa ctt ggg aag agg atc act gag tta aca tcg    2476
Glu Gln Lys Ser Gly Glu Leu Gly Lys Arg Ile Thr Glu Leu Thr Ser
680                 685                 690                 695

aaa aat cag acg tta caa aag gaa atc gaa aag gtc tgc ctg gat aat    2524
Lys Asn Gln Thr Leu Gln Lys Glu Ile Glu Lys Val Cys Leu Asp Asn
                700                 705                 710

aag ctc ctt aca caa caa gta aat aac tta aca act gaa atg aaa aat    2572
Lys Leu Leu Thr Gln Gln Val Asn Asn Leu Thr Thr Glu Met Lys Asn
                715                 720                 725

gtc cct tta aaa gta agt gaa gaa atg aaa aag tca cat gat gta att    2620
Val Pro Leu Lys Val Ser Glu Glu Met Lys Lys Ser His Asp Val Ile
                730                 735                 740
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gtt gat gat ttg aat aaa aag ctt tca gat gtg aca cac aaa tat aca    2668
Val Asp Asp Leu Asn Lys Lys Leu Ser Asp Val Thr His Lys Tyr Thr
    745                 750                 755

gaa aag aag ttg gaa atg gag aag ttg ctt atg gaa aat gcc agt tta    2716
Glu Lys Lys Leu Glu Met Glu Lys Leu Leu Met Glu Asn Ala Ser Leu
760                 765                 770                 775

agt aaa aat gtc agc cgc ctg gaa act gtg ttc ata cct ccc gag aga    2764
Ser Lys Asn Val Ser Arg Leu Glu Thr Val Phe Ile Pro Pro Glu Arg
                780                 785                 790

cac gaa aaa gaa atg atg gct ctg aaa tcc aat atc act gaa ctt aag    2812
His Glu Lys Glu Met Met Ala Leu Lys Ser Asn Ile Thr Glu Leu Lys
                795                 800                 805

aag cag ctg tct gaa ctt aat aaa aaa tgt ggt gaa gac caa gag aaa    2860
Lys Gln Leu Ser Glu Leu Asn Lys Lys Cys Gly Glu Asp Gln Glu Lys
            810                 815                 820

ata tat tca ctc atg tct gaa aac aat gat ttg aaa aag acc atg agt    2908
Ile Tyr Ser Leu Met Ser Glu Asn Asn Asp Leu Lys Lys Thr Met Ser
        825                 830                 835

cat cag tat gtg ccc gtg aaa acc cat gaa gag att aaa act gcc ttg    2956
His Gln Tyr Val Pro Val Lys Thr His Glu Glu Ile Lys Thr Ala Leu
840                 845                 850                 855

agt agc aca ttg gat aaa acc aat aga gaa tta gta gat gtg aag aag    3004
Ser Ser Thr Leu Asp Lys Thr Asn Arg Glu Leu Val Asp Val Lys Lys
                860                 865                 870

aag tgt gaa gat ata aat caa gaa ttt gtg aaa ata aaa gat gag aac    3052
Lys Cys Glu Asp Ile Asn Gln Glu Phe Val Lys Ile Lys Asp Glu Asn
            875                 880                 885

gaa ata tta aaa aga aat ctg gag aac act cag aac caa gta aaa gct    3100
Glu Ile Leu Lys Arg Asn Leu Glu Asn Thr Gln Asn Gln Val Lys Ala
        890                 895                 900

gag tac atc agc cta aga gag cat gaa gaa aag atg agt ggc cta agg    3148
Glu Tyr Ile Ser Leu Arg Glu His Glu Glu Lys Met Ser Gly Leu Arg
    905                 910                 915

aag agc atg aag aag gtc cag gac aac agc gct gaa ata ctg gct aag    3196
Lys Ser Met Lys Lys Val Gln Asp Asn Ser Ala Glu Ile Leu Ala Lys
920                 925                 930                 935

tac aaa aaa agc cag gag gag att gtc acc ctg cat gag gag att gca    3244
Tyr Lys Lys Ser Gln Glu Glu Ile Val Thr Leu His Glu Glu Ile Ala
                940                 945                 950

gcc cag aag aga gaa ctc gac acg ata cag gaa tgc atc aag cta aaa    3292
Ala Gln Lys Arg Glu Leu Asp Thr Ile Gln Glu Cys Ile Lys Leu Lys
                955                 960                 965

tat gct ccg atc atc agc ttg gaa gag tgt gag aga aaa ttt aaa gcc    3340
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Tyr Ala Pro Ile Ile Ser Leu Glu Glu Cys Glu Arg Lys Phe Lys Ala
    970                     975                 980

act gag aaa gaa cta aaa gaa cag cta tcc cag cag aca cag aag tat    3388
Thr Glu Lys Glu Leu Lys Glu Gln Leu Ser Gln Gln Thr Gln Lys Tyr
    985                     990                 995

aat acc agt gaa gaa gag gcc aag aag tgc aag caa gag aat gac aag    3436
Asn Thr Ser Glu Glu Glu Ala Lys Lys Cys Lys Gln Glu Asn Asp Lys
1000                    1005                1010                1015

tta aag aag gag atc ctc act ctt cag aag gat cta aag gat aag aat    3484
Leu Lys Lys Glu Ile Leu Thr Leu Gln Lys Asp Leu Lys Asp Lys Asn
                    1020                1025                1030

gtt cac att gag aat tct tat gaa aca gaa aga gca tta agc aga aaa    3532
Val His Ile Glu Asn Ser Tyr Glu Thr Glu Arg Ala Leu Ser Arg Lys
                1035                1040                1045

aca gaa gag ctg aac aga cag tta aaa gac ctg ttg cag aaa tac aca    3580
Thr Glu Glu Leu Asn Arg Gln Leu Lys Asp Leu Leu Gln Lys Tyr Thr
            1050                1055                1060

gag gca aag aag gag aaa gag aag ctc gtg gag gaa aat gcc aag cag    3628
Glu Ala Lys Lys Glu Lys Glu Lys Leu Val Glu Glu Asn Ala Lys Gln
        1065                1070                1075

act tct gag atc ctt gca gca caa act ctt ttg cag aag cag cat gtt    3676
Thr Ser Glu Ile Leu Ala Ala Gln Thr Leu Leu Gln Lys Gln His Val
1080                    1085                1090                1095

ccg ctg gag cag gtt gag tcc ctg aaa aaa tct ctt agt ggt aca atc    3724
Pro Leu Glu Gln Val Glu Ser Leu Lys Lys Ser Leu Ser Gly Thr Ile
                1100                1105                1110

gag aca ctc aag gaa gaa ctg aaa act aag cag aga tgt tat gag aaa    3772
Glu Thr Leu Lys Glu Glu Leu Lys Thr Lys Gln Arg Cys Tyr Glu Lys
            1115                1120                1125

gag cag cag aca gtg acc caa ctg cgg cag atg ctg gag aat cag aag    3820
Glu Gln Gln Thr Val Thr Gln Leu Arg Gln Met Leu Glu Asn Gln Lys
        1130                1135                1140

aac tcc tct gtg ccc ctg gct gag cat ttg cag gtt aag gaa gca ttt    3868
Asn Ser Ser Val Pro Leu Ala Glu His Leu Gln Val Lys Glu Ala Phe
        1145                1150                1155

gag aaa gaa gtt gga atc ata aaa gct agc ttg aga gaa aag gaa gaa    3916
Glu Lys Glu Val Gly Ile Ile Lys Ala Ser Leu Arg Glu Lys Glu Glu
1160                    1165                1170                1175

gaa agc caa aac aaa act gaa gag gtc tcc aaa ctc cag tct gag att    3964
Glu Ser Gln Asn Lys Thr Glu Glu Val Ser Lys Leu Gln Ser Glu Ile
                    1180                1185                1190

cag aat act aaa caa gcg tta aaa aaa tta gag act cgg gag gtg gtt    4012
Gln Asn Thr Lys Gln Ala Leu Lys Lys Leu Glu Thr Arg Glu Val Val
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gat ttg tcg aaa tat aaa gca acg aaa agc gat ttg gag aca cag att   4060
Asp Leu Ser Lys Tyr Lys Ala Thr Lys Ser Asp Leu Glu Thr Gln Ile
    1210              1215              1220

tcc gac tta aac gaa aaa ttg gcc aat ctg aat agg aag tat gag gaa   4108
Ser Asp Leu Asn Glu Lys Leu Ala Asn Leu Asn Arg Lys Tyr Glu Glu
    1225              1230              1235

gta tgt gag gag gtt ttg cat gcc aaa aag aag gaa ctg tct gct aaa   4156
Val Cys Glu Glu Val Leu His Ala Lys Lys Lys Glu Leu Ser Ala Lys
1240              1245              1250              1255

gat gag aag gaa ttg ctc cat ttc agc ata gag caa gaa atc aaa gat   4204
Asp Glu Lys Glu Leu Leu His Phe Ser Ile Glu Gln Glu Ile Lys Asp
             1260              1265              1270

cag cag gaa cga tgt gac aaa tcc tta aca acc atc acg gag cta cag   4252
Gln Gln Glu Arg Cys Asp Lys Ser Leu Thr Thr Ile Thr Glu Leu Gln
             1275              1280              1285

aga aga ata cag gaa tct gcc aaa caa atc gaa gca aaa gat aat aag   4300
Arg Arg Ile Gln Glu Ser Ala Lys Gln Ile Glu Ala Lys Asp Asn Lys
    1290              1295              1300

ata act gaa ctg ctc aat gat gtg gag aga tta aaa cag gcc ctc aat   4348
Ile Thr Glu Leu Leu Asn Asp Val Glu Arg Leu Lys Gln Ala Leu Asn
    1305              1310              1315

ggc ctt tcc cag ctc acc tat gga agt ggg agt ccc agc aag agg cag   4396
Gly Leu Ser Gln Leu Thr Tyr Gly Ser Gly Ser Pro Ser Lys Arg Gln
1320              1325              1330              1335

agt cag ctg att gac agc ctg cag cag cag gtc agg tcc ctg cag cag   4444
Ser Gln Leu Ile Asp Ser Leu Gln Gln Gln Val Arg Ser Leu Gln Gln
             1340              1345              1350

cag ctg gcg gat gcc gac aga cag cac caa gaa gta att gca att tat   4492
Gln Leu Ala Asp Ala Asp Arg Gln His Gln Glu Val Ile Ala Ile Tyr
             1355              1360              1365

cgg aca cac ctt ctt agt gct gca cag ggt cac atg gat gag gat gtg   4540
Arg Thr His Leu Leu Ser Ala Ala Gln Gly His Met Asp Glu Asp Val
    1370              1375              1380

cag gcc gcc tta ctg cag atc ata cag atg cgg cag ggg ctc gtg tgc   4588
Gln Ala Ala Leu Leu Gln Ile Ile Gln Met Arg Gln Gly Leu Val Cys
    1385              1390              1395

tag tcg gca cccccagcc cacagtggct ttccctgctg gtgctgagca           4637
 *  Ser Ala
    1400

ttctgtgcgc aacttcatgg cctttctggg cctcgctgtg ctagtataat taaaataaag  4697
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            20   25   30
Asp Val Glu Lys Val Ser Ser Ile Leu Ala Lys Lys Gly Val Asn Pro
            35   40   45
Gly Lys Leu Asp Val Glu Gly Arg Ser Ala Phe His Val Val Ala Ser
        50   55   60
Lys Gly Asn Leu Glu Cys Leu Asn Ala Ile Leu Ile His Gly Val Asp
65   70   75   80
Ile Thr Thr Ser Asp Thr Ala Gly Arg Asn Ala Leu His Leu Ala Ala
                85   90   95
Lys Tyr Gly His Ala Leu Cys Leu Gln Lys Leu Leu Gln Tyr Asn Cys
            100   105   110
Pro Thr Glu His Val Asp Leu Gln Gly Arg Thr Ala Leu His Asp Ala
            115   120   125
Ala Met Ala Asp Cys Pro Ser Ser Ile Gln Leu Leu Cys Asp His Gly
    130   135   140
Ala Ser Val Asn Ala Lys Asp Val Asp Gly Arg Thr Pro Leu Val Leu
145   150   155   160
Ala Thr Gln Met Cys Arg Pro Thr Ile Cys Gln Leu Leu Ile Asp Arg
                165   170   175
Gly Ala Asp Ile Asn Ser Arg Asp Lys Gln Asn Arg Thr Ala Leu Met
            180   185   190
Leu Gly Cys Glu Tyr Gly Cys Lys Asp Ala Val Glu Val Leu Ile Lys
        195   200   205
Asn Gly Ala Asp Val Thr Leu Leu Asp Ala Leu Gly His Asp Ser Ser
    210   215   220
Tyr Tyr Ala Arg Ile Gly Asp Asn Leu Asp Ile Leu Thr Leu Leu Lys
225   230   235   240
Thr Ala Ser Glu Asn Ser Asn Lys Gly Arg Glu Leu Trp Lys Lys Gly
                245   250   255
Pro Ser Leu Gln Gln Arg Asn Leu Ser Gln Met Leu Asp Glu Val Asn
            260   265   270
Thr Lys Ser Asn Gln Arg Glu His Gln Asn Ile Gln Asp Leu Glu Ile
            275   280   285
Glu Asn Glu Asp Leu Lys Glu Arg Leu Arg Lys Ile Gln Gln Glu Gln
    290   295   300
Arg Ile Leu Leu Asp Lys Val Asn Gly Leu Gln Leu Gln Leu Asn Glu
305   310   315   320
Glu Val Met Val Ala Asp Asp Leu Glu Ser Glu Lys Glu Lys Leu Lys
                325   330   335
Ser Leu Leu Ala Ala Lys Glu Lys Gln His Glu Glu Ser Leu Arg Thr
            340   345   350
Ile Glu Ala Leu Lys Ser Arg Phe Lys Tyr Phe Glu Ser Asp His Leu
        355   360   365
Gly Ser Gly Ser His Phe Arg Lys Glu Asp Met Leu Leu Lys Gln Gly
    370   375   380
Gln Met Tyr Met Thr Asp Ser Gln Cys Thr Ser Thr Gly Met Pro Val
385   390   395   400
His Met Gln Ser Arg Ser Met Leu Arg Pro Leu Glu Leu Ala Leu Pro

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                  405                    410                    415
Asn Gln Ala Ser Tyr Ser Glu Asn Glu Ile Leu Lys Lys Glu Leu Glu
              420                    425                    430
Ala Met Arg Thr Phe Cys Asp Ser Ala Lys Gln Asp Arg Leu Lys Leu
          435                    440                    445
Gln Asn Glu Leu Ala His Lys Val Ala Glu Cys Lys Ala Leu Ala Leu
      450                    455                    460
Glu Cys Glu Arg Val Lys Glu Asp Ser Asp Glu Gln Ile Lys Gln Leu
  465                    470                    475                    480
Glu Asp Ala Leu Lys Asp Val Gln Lys Arg Met Tyr Glu Ser Glu Gly
              485                    490                    495
Lys Val Lys Gln Met Gln Thr His Phe Leu Ala Leu Lys Glu His Leu
          500                    505                    510
Thr Ser Asp Ala Ala Thr Gly Asn His Arg Leu Met Glu Glu Leu Lys
      515                    520                    525
Asp Gln Leu Lys Asp Met Lys Val Lys Tyr Glu Gly Ala Ser Ala Glu
  530                    535                    540
Val Gly Lys Leu Arg Asn Gln Ile Lys Gln Asn Glu Met Leu Val Glu
  545                    550                    555                    560
Glu Phe Lys Arg Asp Glu Gly Lys Leu Met Glu Glu Asn Lys Arg Leu
              565                    570                    575
Gln Lys Glu Leu Ser Met Cys Glu Leu Glu Arg Glu Lys Arg Gly Arg
          580                    585                    590
Lys Leu Thr Glu Met Glu Gly Gln Leu Lys Asp Leu Ser Ala Lys Leu
      595                    600                    605
Ala Leu Ser Ile Pro Ala Glu Lys Phe Glu Asn Met Lys Ser Leu Leu
  610                    615                    620
Ser Asn Glu Leu Asn Glu Lys Ala Lys Lys Leu Ile Asp Val Glu Arg
  625                    630                    635                    640
Glu Tyr Glu Arg Ser Leu Asn Glu Thr Arg Pro Leu Lys Arg Glu Leu
              645                    650                    655
Glu Asn Leu Lys Ala Lys Leu Ala Gln His Val Lys Pro Glu Glu His
          660                    665                    670
Glu Gln Leu Lys Ser Arg Leu Glu Gln Lys Ser Gly Glu Leu Gly Lys
      675                    680                    685
Arg Ile Thr Glu Leu Thr Ser Lys Asn Gln Thr Leu Gln Lys Glu Ile
      690                    695                    700
Glu Lys Val Cys Leu Asp Asn Lys Leu Leu Thr Gln Gln Val Asn Asn
  705                    710                    715                    720
Leu Thr Thr Glu Met Lys Asn Val Pro Leu Lys Val Ser Glu Glu Met
              725                    730                    735
Lys Lys Ser His Asp Val Ile Val Asp Asp Leu Asn Lys Lys Leu Ser
          740                    745                    750
Asp Val Thr His Lys Tyr Thr Glu Lys Lys Leu Glu Met Glu Lys Leu
      755                    760                    765
Leu Met Glu Asn Ala Ser Leu Ser Lys Asn Val Ser Arg Leu Glu Thr
      770                    775                    780
Val Phe Ile Pro Pro Glu Arg His Glu Lys Glu Met Met Ala Leu Lys
  785                    790                    795                    800
Ser Asn Ile Thr Glu Leu Lys Lys Gln Leu Ser Glu Leu Asn Lys Lys
              805                    810                    815
Cys Gly Glu Asp Gln Glu Lys Ile Tyr Ser Leu Met Ser Glu Asn Asn
          820                    825                    830
Asp Leu Lys Lys Thr Met Ser His Gln Tyr Val Pro Val Lys Thr His
          835                    840                    845
Glu Glu Ile Lys Thr Ala Leu Ser Ser Thr Leu Asp Lys Thr Asn Arg
      850                    855                    860
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Glu Leu Val Asp Val Lys Lys Lys Cys Glu Asp Ile Asn Gln Glu Phe
865               870               875               880
Val Lys Ile Lys Asp Glu Asn Glu Ile Leu Lys Arg Asn Leu Glu Asn
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